

Application No. 09/917,438

REMARKS

Claims 1, 3-8, 10-14, and 19-20 are pending. By this Amendment, claims 1, 3, 4, 6, 8, 11, and 13 are amended and claims 2, 9, and 18 are cancelled.

Claims 1 and 8 are amended to more particularly point out Applicants' invention and incorporate the features of claims 2 and 18 into claim 1 and the features of claims 9 and 18 into claim 8. The amendments are supported in the specification, for example, at page 13, line 10 through page 14, line 14, page 15, line 18 through page 16, line 4, and in Figs. 6 and 9. Claim 3 is amended to correct a typographical error. Claims 4, 6, 11, and 13 are amended to change "tetramethyl" to "trimethyl" for consistency between the chemical names and chemical formulas included in each of the claims. The amendments are supported by the chemical formulas included in each of the claims, respectively. No new matter is introduced by any of the claim amendments.

All pending claims stand rejected. Applicants respectfully request reconsideration of the rejections based on the following remarks.

Rejection over Nishimoto under 35 U.S.C. § 103

The Examiner rejected claims 1, 7, 8, and 14 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,408,569 to Nishimoto (Nishimoto). To advance prosecution of the application, Applicants have amended claims 1 and 8 to more particularly point out their invention and incorporate the features of claims 2 and 18 into claim 1 and the features of claims 9 and 18 into claim 8. Applicants respectfully request reconsideration of the rejection in view of the following comments.

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"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." MPEP § 2142 (citing In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

The cited reference, Nishimoto, does not establish a prima facie case of obviousness of Applicants' claimed invention, as the reference does not teach, suggest, or motivate all of the features included in claims 1 or 8, as amended. Prima facie obviousness is not established if all the elements of the rejected claim are not disclosed or suggested in the cited art. In re Ochiai, 37 USPQ 1127, 1131 (Fed. Cir. 1995). ("The test for obviousness *vel non* is statutory. It requires that one compare the claim's 'subject matter as a whole' with the prior art 'to which said subject matter pertains.'"). See also, MPEP § 2143.03 "All Claim Limitations Must Be Taught or Suggested," citing In re Royka, 180 USPQ 580 (CCPA 1974). "To establish prima facie obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art." MPEP § 2143.03.

As stated, Nishimoto does not teach, suggest, or motivate all of the features included in claims 1 or 8, as amended. Specifically, Nishimoto does not teach, suggest, or motivate controlling flow rates for a Ge dopant gas, P dopant gas, and B dopant gas to form a top clad layer, wherein the flow rate for the Ge dopant gas is controlled such that the Ge dopant comprises from about 1 percent by weight to about 5 percent by weight of the top clad layer.

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Nor does Nishimoto teach, suggest, or motivate controlling flow rates to reduce crystallization areas within the top clad layer or to provide refractive index stability to the top clad layer across an anneal temperature range from 900 °C to 1050 °C. Rather, Nishimoto merely teaches reflowing a GeBPSG cladding layer at a temperature of about 750 °C. In doing so, Nishimoto distinguishes a PSG cladding layer (layer not comprising a Ge dopant) from the GeBPSG cladding layer pointing out that the PSG cladding layer has a reflow point of about 1000 °C. See, e.g., U.S. Patent No. 5,408,569 at column 3, lines 36 to 53. As such, it can be seen that Nishimoto does not teach, suggest, or motivate BPG doped silica glass formed to reduce or prevent crystallization formation in the cladding layer or to provide refractive index stability to the top clad layer.

With respect to specific features noted by the Examiner in claims 7 and 14 depending from claims 1 and 8, respectively, these issues are not commented on further here because they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. See MPEP § 2143.03 ("If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.") As such, Applicants respectfully request withdrawal of the rejection of claims 1, 7, 8, and 14 as being unpatentable over Nishimoto.

Rejection over Nishimoto and Russell under 35 U.S.C. § 103

The Examiner rejected claims 2-6, 9-13, and 18-20 under 35 U.S.C. § 103(a) as being unpatentable over Nishimoto in view of U.S. Patent No. 5,648,175 to Russell, et al. (Russell). As stated, Applicants have amended claims 1 and 8 to more particularly point out

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their invention. Applicants respectfully request reconsideration of the rejection based on the following comments.

The deficiencies of Nishimoto with respect to claims 1 and 8 were discussed in detail above. Russell does not make up for these deficiencies. Specifically, like Nishimoto, Russell does not teach, suggest, or modify controlling a flow rates for a Ge dopant gas, P dopant gas, and B dopant gas to form a top clad layer to reduce crystallization areas within the top clad layer. Nor does Russell teach, suggest, or motivate controlling the flow rates to provide refractive index stability to the top clad layer across an anneal temperature range from 900 °C to 1050 °C. Rather, Russell merely teaches reflowing a GeBPSG film at a temperature of about 800 °C and a BPSG film at a temperature of about 700 °C to 800 °C. Therefore, the combined teachings of the Nishimoto and Russell do not render claims 3-6, 9-13, and 19-20 prima facie obvious, as the cited references do not teach, suggest, or modify all of the features included in the claims.

Because the combined teachings of Nishimoto and Russell do not render Applicants' invention prima facie obvious, Applicants respectfully request withdrawal of the rejection of claims 3-6, 9-13, and 19-20 under 35 U.S.C. § 103(a) as being unpatentable over the Nishimoto in view of Russell.


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CONCLUSION

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



Peter S. Dardi, Ph.D.
Registration No. 39,650

Customer No. 24113
Patterson, Thuent, Skaar & Christensen, P.A.
4800 IDS Center
80 South 8th Street
Minneapolis, Minnesota 55402-2100
Telephone: (404) 949-5730